AMENDMENT TO THE SPECIFICATION

On pages 16-20, please amend Table 2 as shown on pages 3-7 of this Supplemental Response.

On pages 159-162, please amend Table 11 as shown on pages 8-11 of this Supplemental response.

TABLE 2

CRY3BB* PROTEINS EXHIBITING IMPROVED ACTIVITY AGAINST SCRW LARVAE

Design	Method	Used	1, 6, 8	1,8			•	3,7		ω,		7,8	7	7,8	2, 3, 46	2, 4	
Fold	Increase Over	WT Activity	3.6×	6.4×				4.0×		2.8×		5.0×	3.6×	3.0×	1.9×	4.1×	
Structural Site	of Changes		Δα1-α3	$1\alpha3,4$				α6		α6		9α	α6	α6	$l\alpha 7, \beta 1$	$1\beta 1, \alpha 8$	
Cry3Bb* Amino	Acid Changes		Δ1-159	T154F, P155H,	L156H, L158R			Y230L,H231S		S223P, Y230S		H231R	H231N, T241S	H231T	R290N	S311L, N313T,	E317K
cry3Bb* Nucleotide Sequence	Changes		ı	A460T,C461T, A462T, C464A,	T465C, T466C, T467A, A468T,	A469T, G470C, T472C, T473G,	G474T, A477T, A478T, G479C	T687C, T688C, A689T, C691A,	A692G	T667C, T687C, T688A, A689G,	C691A, A692G	T687C, A692G	T687C, C691A	T687C, C691A, A692C, T693C	C868A, G869A, G870T	C932T, A938C, T942G, G949A,	T954C
cry3Bb*	Plasmid	Designation	ı	pEG1707				pEG1708		pEG1709		pEG1710	pEG1711	pEG1712	pEG1713	pEG1714	
Cry3Bb*	Protein	Designation	Cry3Bb.60	Cry3Bb.11221				Cry3Bb.11222 pEG1708		Cry3Bb.11223 pEG1709		Cry3Bb.11224 pEG1710	Cry3Bb.11225	Cry3Bb.11226	Cry3Bb.11227	Cry3Bb.11228 pEG1714	

Cry3Bb*	cry3Bb*	cry3Bb* Nucleotide Sequence	Cry3Bb* Amino	Structural Site	Fold	Design
Protein	Plasmid	Changes	Acid Changes	of Changes	Increase Over	Method
Designation	Designation				WT Activity	Used
Cry3Bb.11229	pEG1715	T931A, A933C, T942A, T945A,	S311T, E317K,	1β1,α8	2.5×	2, 4
		G949A, A953G, T954C	Y318C			
Cry3Bb.11230 pEG1716	pEG1716	T931G, A933C, C934G, T945G,	S311A, L312V,	$1\beta 1, \alpha 8$	4.7×	2,48
		C946T, A947G, G951A, T954C	Q316W			
Cry3Bb.11231	pEG1717	T687C, A692G, C932T, A938C,	H231R, S311L,	$\alpha 6; 1\beta 1, \alpha 8$	7.9×	2, 4, 7, 8,
		T942G, G949A, T954C	N313T, E317K			10
Cry3Bb.11232	pEG1718	T931A, A933G, T935C, T936A,	S311T, L312P,	$1\beta1,\alpha8$	5.1×	. 4
		A938C, T939C, T942C, T945A,	N313T, E317N			
		G951T, T954C				
Cry3Bb.11233	pEG1719	T931G, A933C, T936G, T942C,	S311A, Q316D	$1\beta 1, \alpha 8$	2.2×	2,4
		C943T, T945A, C946G, G948C,				
		T954C				
Cry3Bb.11234	pEG1720	T861C, T866C, C868A, T871C,	1289T, L291R,	$l\alpha 7, \beta 1$	4.1×	4
		T872G, A875T, T877A, C878G,	Y292F, S293R			
		A882G				
Cry3Bb.11235 pEG1721	pEG1721	T687C, A692G, C932T	H231R, S311L	$\alpha 6; 1\beta 1, \alpha 8$	3.2×	2, 4, 7, 8,
						10

Protein Plasmid Changes Acid Changes of Changes Designation Designation T931A, C932T, A933C, T936C, S3111 lβ1,α8 Cry3Bb.11236 pEG1722 T931A, C932T, A933C, T936C, S311I, N313H lβ1,α8 Cry3Bb.11237 pEG1723 T931A, C932T, A933C, T936C, S311I, N313H lβ1,α8 Cry3Bb.11238 pEG1724 A937C, A947T, A950T, T954C B11,α8 Cry3Bb.11239 pEG1725 A933C, T936C, A937G, A938T, N313V, T314N, lβ1,α8 Cry3Bb.11239 pEG1725 A933T, A958G, T936G, T942A, N313R, L315P, lβ1,α8 Cry3Bb.11241 pEG1726 A860T, T854C, G862A, C868T, Y28TF, D288N, lα7,β1 Cry3Bb.11242 pEG1726 A860T, T851C, A873T, T877A, R2290L lα7,β1	Cry3Bb*	cry3Bb*	$cry3Bb^*$ Nucleotide Sequence	Cry3Bb* Amino Structural Site	Structural Site	Fold	Design
Designation pEG1722 T931A, C932T, A933C, T936C, S311I pEG1723 T931A, C932T, A933C, T936C, S311I, N313H pEG1723 T931A, C932T, A933C, T936C, S311I, N313H A937G, A938T, C941A, T942C, T945A T954C N313V, T314N, PEG1724 A933C, T936C, A937G, A938T, N313V, T314N, A947T, A950T, T95AC Q316M, E317V A947T, A950T, T954C Q316L, E317A A950C, T954C Q316L, E317A A950C, T954C Q316L, E317A A950C, T861C, G862A, C868T, Y287F, D288N, G869T, T861C, G862A, C868T, Y287F, D288N, C878G, A879T R290L C878G, G869T R290V	Protein	Plasmid	Changes	Acid Changes	of Changes	Increase Over	Method
pEG1722 T931A, C932T, A933C, T936C, S3111 T942G, T945A, T954C S311I, N313H A937G, A938T, C941A, T942C, T945A, C946A, A947T, A950T, T954C T954C PEG1724 A933C, T936C, A937G, A938T, N313V, T314N, C941A, T942C, T945A, C946A, Q316M, E317V A947T, A950T, T954C A9313R, L315P, T944C, T945A, A947T, G948T, Q316L, E317A A950C, T954C A950C, T954C BEG1726 A860T, T861C, G862A, C868T, Y287F, D288N, G869T, T871C, A873T, T877A, R290L C878G, A879T C868G, G869T R290V		Designation				WT Activity	Used
T942G, T945A, T954C T931A, C932T, A933C, T936C, A937G, A938T, C941A, T942C, T945A, C946A, A947T, A950T, T954C A933C, T936C, A937G, A938T, C941A, T942C, T945A, C946A, A947T, A950T, T954C A933T, A938G, T939G, T942A, A947T, A950T, T954C A933T, A938G, T939G, T942A, A950C, T954C A950C, T954C A860T, T861C, G862A, C868T, C878G, A873T, T877A, C878G, A879T C868G, G869T R290V	1	pEG1722	T931A, C932T, A933C, T936C,	S311I	1β1,α8	3.1×	2, 4
T931A, C932T, A933C, T936C, A937G, A938T, C941A, T942C, T945A, C946A, A947T, A950T, T954C A933C, T936C, A937G, A938T, C941A, T942C, T945A, C946A, A947T, A950T, T954C A933T, A938G, T939G, T942A, T944C, T945A, A947T, G948T, T944C, T945A, A947T, G948T, A950C, T954C A950C, T954C A860T, T861C, G862A, C868T, C878G, A873T, T877A, C868G, G869T C868G, G869T C868G, G869T C868G, G869T C868G, G869T			T942G, T945A, T954C				
A937G, A938T, C941A, T942C, T945A, C946A, A947T, A950T, T954C A933C, T936C, A937G, A938T, C941A, T942C, T945A, C946A, A947T, A950T, T954C A933T, A938G, T939G, T942A, T944C, T945A, A947T, G948T, T944C, T945A, A947T, G948T, A950C, T954C A860T, T861C, G862A, C868T, C878G, A879T C868G, G869T R290V	Cry3Bb.11237 1	pEG1723	T931A, C932T, A933C, T936C,	S3111, N313H	$1\beta1,\alpha8$	5.4×	2,4
T95A, C946A, A947T, A950T, T95AC A933C, T936C, A937G, A938T, C941A, T942C, T945A, C946A, Q316M, E317V A947T, A950T, T954C A933T, A938G, T939G, T942A, T944C, T945A, A947T, G948T, Q316L, E317A A950C, T954C A860T, T861C, G862A, C868T, C878G, A873T, T877A, C878G, A879T C868G, G869T R290V			A937G, A938T, C941A, T942C,				
T954C A933C, T936C, A937G, A938T, C941A, T942C, T945A, C946A, A947T, A950T, T954C A933T, A938G, T939G, T942A, T944C, T945A, A947T, G948T, T944C, T945A, A947T, G948T, A950C, T954C A860T, T861C, G862A, C868T, C878G, A873T, T877A, C868G, G869T C868G, G869T C868G, G869T C868G, G869T C868G, G869T			T945A, C946A, A947T, A950T,				
A933C, T936C, A937G, A938T, N313V, T314N, C941A, T942C, T945A, C946A, Q316M, E317V A947T, A950T, T954C A933T, A938G, T939G, T942A, N313R, L315P, T944C, T945A, A947T, G948T, Q316L, E317A A950C, T954C A860T, T861C, G862A, C868T, Y287F, D288N, G869T, T871C, A873T, T877A, R290L C878G, A879T C868G, G869T R290V			T954C				
C941A, T942C, T945A, C946A, Q316M, E317V A947T, A950T, T954C A933T, A938G, T939G, T942A, N313R, L315P, T944C, T945A, A947T, G948T, Q316L, E317A A950C, T954C A860T, T861C, G862A, C868T, Y287F, D288N, G869T, T871C, A873T, T877A, R290L C878G, A879T C868G, G869T	Cry3Bb.11238 1	pEG1724	A933C, T936C, A937G, A938T,	N313V, T314N,	$1\beta1,\alpha8$	2.6×	2, 4
A947T, A950T, T954C A933T, A938G, T939G, T942A, N313R, L315P, T944C, T945A, A947T, G948T, Q316L, E317A A950C, T954C A860T, T861C, G862A, C868T, Y287F, D288N, G869T, T871C, A873T, T877A, R290L C878G, A879T C868G, G869T R290V			C941A, T942C, T945A, C946A,	Q316M, E317V			
A933T, A938G, T939G, T942A, N313R, L315P, T944C, T945A, A947T, G948T, Q316L, E317A A950C, T954C A860T, T861C, G862A, C868T, Y287F, D288N, G869T, T871C, A873T, T877A, R290L C878G, A879T C868G, G869T R290V			A947T, A950T, T954C				
T944C, T945A, A947T, G948T, Q316L, E317A A950C, T954C A860T, T861C, G862A, C868T, Y287F, D288N, G869T, T871C, A873T, T877A, R290L C878G, A879T C868G, G869T R290V	Cry3Bb.11239	pEG1725	A933T, A938G, T939G, T942A,	N313R, L315P,	$1\beta 1, \alpha 8$	2.8×	2,4
A950C, T954C A860T, T861C, G862A, C868T, Y287F, D288N, G869T, T871C, A873T, T877A, R290L C878G, A879T C868G, G869T R290V			T944C, T945A, A947T, G948T,	Q316L, E317A			
A860T, T861C, G862A, C868T, Y287F, D288N, G869T, T871C, A873T, T877A, R290L C878G, A879T R290V			A950C, T954C				
G869T, T871C, A873T, T877A, R290L C878G, A879T C868G, G869T R290V	Cry3Bb.11241	pEG1726	A860T, T861C, G862A, C868T,	Y287F, D288N,	$l\alpha 7, \beta 1$	2.6×	2, 3, 4, 6
C878G, A879T C868G, G869T R290V			G869T, T871C, A873T, T877A,	R290L			
C868G, G869T R290V			C878G, A879T				
	Cry3Bb.11242	pEG1727	C868G, G869T	R290V	$1\alpha 7, \beta 1$	2.5×	2, 3, 4, 6,
							∞

Cry3Bb*	cry3Bb*	cry3Bb* Nucleotide Sequence	Cry3Bb* Amino	Structural Site	Fold	Design
Protein	Plasmid	Changes	Acid Changes	of Changes	Increase Over	Method
Designation	Designation				WT Activity	Osed
Cry3Bb.11032	pEG1041	A494G	D165G	α4	3.1×	2, 4, 8
Cry3Bb.11035 pEG1046	pEG1046	G479A, A481C, A482C,	S160N, K161P,	α4	2.7×	∞
		A484C, G485A, A486C, A494G	<u>PR</u> 162H, D165G			
Cry3Bb.11036 pEG1047	pEG1047	A865G, T877C	1289V, S293P	$l\alpha 7, \beta 1$	4.3×	4
Cry3Bb.11046 pEG1052	pEG1052	G479A, A481C, A482C,	S160N, K161P,	$\alpha 4$; $1\alpha 7$, $\beta 1$	2.6×	2, 4, 8, 10
		A484C, G485A, A486C,	<u>PR</u> 162H, D165G,			
		A494G, A865G, T877C	1289V, S293P			
Cry3Bb.11048 pEG1054	pEG1054	T309A, A310, A311, A312	D103E, AA104	$1\alpha2a,2b$	4.3×	∞
Cry3Bb.11051	pEG1057	A565G, A566G	K189G	$l\alpha 4,5$	3.0×	2, 3, 4
Cry3Bb.11057 pEG1062	pEG1062	T309A, A310, A311, A312,	D103E, AA104,	$l\alpha 2a,2b; \alpha 4$	3.4×	2, 4, 8, 10
		G479A, A481C, A482C,	S160N, K161P,			
		A484C, G485A, A486C, A494G	<u>PR</u> 162H, D165G			
Cry3Bb.11058	pEG1063	Т309А, Д310, Д311, Д312,	D103E, AA104,	$l\alpha 2a, 2b; l\alpha 3, 4$	3.5×	1, 8, 10
		A460T, C461T, A462T, C464A,	T154F, P155H,			
		T465C, T466C, T467A, A468T,	L156H, L158R			
		A469T, G470C, T472C, T473G,				
		G474T, A477T, A478T, G479C				

Protein Plasmid Changes Acid Changes of Changes Increase Over Method Designation Designation Designation PEG1084 A494G, T931A, A933C, T942A, D165G, S311T, α4, 1β1,α8 6.1 x 2,4,8,10 Cry3Bb.11081 pEG1085 A494G, A865G, T877C, T914C, D165G, L289V, α4; 1α7,β1; β1; 4.9 x 2,4,5,8, Cry3Bb.11082 pEG1085 A494G, A865G, T877C, T914C, D165G, L289V, α4; 1α7,β1; β2 4.9 x 9, 10 Cry3Bb.11083 pEG1086 A865G, T877C, A1044G Q316W, Q348R, 1α7,β1; β2 7.4 x, β, 10 Cry3Bb.11084 pEG1086 A865G, T877C, A1043G L289V, S293P, α4; β1,α8 7.2 x 2,4,8,10 Cry3Bb.11089 pEG1086 A865G, T877C, A1043G L289V, S293P β2 7.2 x 3,5,9 Cry3Bb.11089 pEG1098 A494G, T687C, A692G, C932T D165G, H31R α4; α6, 1β1, α8 7.2 x 3,4,7,8 Cry3Bb.11098 pEG1098 A494G, T687C, A692G, C932T D165G, H31R α4; α6, 1β1 7.9 x 3,4,7,8	Cry3Bb*	cry3Bb*	cry3Bb* Nucleotide Sequence	Cry3Bb* Amino	Structural Site	Fold	Design
WT Activity pEG1084 A494G, T931A, A933C, T942A, D165G, S311T, α4; μβ1,α8 6.1× pEG1085 T945A, G949A, T954C E317K 6.1× pEG1086 A494G, A865G, T877C, T914C, D165G, 1289V, α4; μβ1,α8; μβ2; 4.9× pEG1086 A494G, A933C, C934G, T954C, S311A, L312V, β3b 7.4× pEG1086 A865G, T877C, A1094C Q316W, Q348R, 1α7,β1; β2 7.4× pEG1087 A865G, T877C, A1043G 1289V, S293P, 1α7,β1; α8 7.2× pEG1098 A494G, C932T D165G, S311L α4; μβ1,α8 7.2× pEG1098 A494G, T687C, A692G, C932T D165G, H231R, α4; μβ1,α8 7.9× pEG1098 A494G, T687C, A692G, C932T D165G, H231R, α4; μβ1,α 7.9× pEG1098 A494G, T687C, A692G, C932T D165G, H231R, α4; α6, μβ1 7.9× pEG1098 A494G, T687C, A692G, C932T D165G, H231R, α4; α6, μβ1 7.9× pEG1098 A494G, T687C, A692G, C932T S311L, N313T α8 7.9× pEG1098 <th>Protein</th> <th>Plasmid</th> <th>Changes</th> <th>Acid Changes</th> <th>of Changes</th> <th>Increase Over</th> <th>Method</th>	Protein	Plasmid	Changes	Acid Changes	of Changes	Increase Over	Method
pEG1084 A494G, T931A, A933C, T942A, D165G, S311T, α4; lβ1,α8 6.1× PEG1085 A494G, R865G, T877C, T914C, D165G, I289V, α4; lα7,β1; β1; 4.9× PEG1085 A494G, A865G, T877C, T914C, D165G, I289V, α4; lα7,β1; β1; 4.9× PEG1086 A494G, A947G, G951A, T954C, S311A, L312V, β3b 7.4× PEG1086 A865G, T877C, A1043G L289V, S293P, lα7,β1; β2 7.4× PEG1087 A494G, C932T D165G, S311L α4; lβ1,α8 7.2× PEG1095 A494G, T687C, A692G, C932T, D165G, H231R, α4; α6; lβ1, 7.9× PEG1098 A494G, T687C, A692G, C932T, D165G, H231R, α4; α6; lβ1, 7.9× PEG1098 A494G, T687C, A692G, C932T, D165G, H231R, α4; α6, 1β1, 7.9× PEG1098 A494G, T687C, A692G, C932T, D165G, H231R, α4; α6, 1β1, 7.9× PEG1098 A494G, T687C, A692G, C932T, D165G, H231R, α4; α6, 1β1, 7.9×	Designation	Designation				WT Activity	Used
T945A, G949A, T954C E317K A494G, A865G, T877C, T914C, D165G, I289V, α4; Iα7,β1; β1; 4.9× T931G, A933C, C934G, T945G, S293P, F305S, Iβ1,α8; β2; 4.9× C946T, A947G, G951A, T954C, S311A, L312V, β3b 7.4× A1043G, T1094C Q316W, Q348R, Iα7,β1; β2 7.4× A865G, T877C, A1043G I289V, S293P, Iα7,β1; β2 7.4× Q348R Q348R β2 4.6× A494G, C932T D165G, S311L α4; μβ1,α8 7.2× A494G, T687C, A692G, C932T, D165G, H231R, α4; α6, 1β1, 7.9× A938C, T942G, G949A, T954C S311L, N313T, α8 7.9× B317K α8 7.9×	Cry3Bb.11081	pEG1084	A494G, T931A, A933C, T942A,	D165G, S311T,	$\alpha 4$; $1\beta 1$, $\alpha 8$	6.1×	2, 4, 8, 10
A494G, A865G, T877C, T914C, D165G, I289V, α4; Iα7,β1; β1; 4.9× T931G, A933C, C934G, T945G, S293P, F305S, Iβ1,α8; β2; 4.9× C946T, A947G, G951A, T954C, S311A, L312V, β3b 7.4× A1043G, T1094C Q316W, Q348R, 1α7,β1; β2 7.4× A865G, T877C, A1043G I289V, S293P, Iα7,β1; β2 7.4× A494G, C932T D165G, S311L α4; Iβ1,α8 7.2× A494G, T687C, A692G, C932T, D165G, H231R, α4; α6; 1β1, 7.9× A938C, T942G, G949A, T954C S311L, N313T, α8 7.9× E317K E317K R317K R3 R3			T945A, G949A, T954C	E317K			
T931G, A933C, C934G, T945G, S293P, F305S, 1β1,α8; β2; C946T, A947G, G951A, T954C, S311A, L312V, β3b A1043G, T1094C Q316W, Q348R, 1α7,β1; β2 7.4× A865G, T877C, A1043G 1289V, S293P, 1α7,β1; β2 7.4× Q348R Q348R 7.2× A494G, C932T D165G, S311L α4; 1β1,α8 7.2× A494G, T687C, A692G, C932T, D165G, H231R, α4; α6, 1β1, 7.9× A938C, T942G, G949A, T954C S311L, N313T, α8 7.9× B3177K E3177K A8 A8	Cry3Bb.11082	pEG1085	A494G, A865G, T877C, T914C,	D165G, I289V,	$\alpha 4; 1\alpha 7, \beta 1; \beta 1;$	4.9×	2, 4, 5, 8,
C946T, A947G, G951A, T954C, S311A, L312V, β3b A1043G, T1094C Q316W, Q348R, 1α7,β1; β2 7.4× A865G, T877C, A1043G 1289V, S293P, 1α7,β1; β2 7.4× Q348R Q348R 7.2× A1043G Q348R β2 4.6× A494G, T687C, A692G, C932T D165G, H231R, α4; α6, 1β1, 7.9× A938C, T942G, G949A, T954C S311L, N313T, α8 7.9× E317K E317K R8 7.9×			T931G, A933C, C934G, T945G,	S293P, F305S,	$1\beta 1, \alpha 8; \beta 2;$		9, 10
A1043G, T1094C V365A V365A A865G, T877C, A1043G 1289V, S293P, Iα7,β1; β2 Q348R A494G, C932T D165G, S311L A494G, T687C, A692G, C932T, A938C, T942G, G949A, T954C E317K E317K			C946T, A947G, G951A, T954C,	S311A, L312V,	β3b		
V365A V365A A865G, T877C, A1043G 1289V, S293P, 1α7,β1; β2 7.4× Q348R Q348R 7.2× A1043G Q348R β2 4.6× A494G, T687C, A692G, C932T, D165G, H231R, α4; α6, 1β1, 7.9× A938C, T942G, G949A, T954C S311L, N313T, α8 7.9× E317K E317K R8 7.9×			A1043G, T1094C	Q316W, Q348R,			
A865G, T877C, A1043G 1289V, S293P, 1α7,β1; β2 7.4× Q348R A494G, C932T D165G, S311L α4; 1β1,α8 7.2× A1043G Q348R β2 4.6× A494G, T687C, A692G, C932T, D165G, H231R, α4; α6, 1β1, 7.9× A938C, T942G, G949A, T954C S311L, N313T, α8 E317K				V365A			
Q348R Q348R 7.2× A494G, C932T D165G, S311L α4; lβ1, α8 7.2× A494G, T687C, A692G, C932T D165G, H231R α4; α6, 1β1, 7.9× A938C, T942G, G949A, T954C S311L, N313T α8 7.9× E317K E317K α8 8.3	Cry3Bb.11083	pEG1086	A865G, T877C, A1043G	I289V, S293P,	$1\alpha 7, \beta 1; \beta 2$	7.4×	4, 5, 9, 10
A494G, C932T D165G, S311L α4; lβ1,α8 7.2× A1043G Q348R β2 4.6× A494G, T687C, A692G, C932T, A938C, T942G, G949A, T954C D165G, H231R, α4; α6, 1β1, α8 7.9× A938C, T942G, G949A, T954C S311L, N313T, α8 E317K				Q348R			
A1043G Q348R β2 4.6× A494G, T687C, A692G, C932T, D165G, H231R, α4; α6, 1β1, 7.9× A938C, T942G, G949A, T954C S311L, N313T, α8 E317K	Cry3Bb.11084	pEG1087	A494G, C932T	D165G, S311L	$\alpha 4$; $1\beta 1, \alpha 8$	7.2×	2, 4, 8, 10
A494G, T687C, A692G, C932T, D165G, H231R, $\alpha 4$; $\alpha 6$, $1\beta 1$, $7.9\times$ A938C, T942G, G949A, T954C S311L, N313T, $\alpha 8$ E317K	Cry3Bb.11095	pEG1095	A1043G	Q348R	β2	4.6×	5,9
S311L, N313T, E317K	Cry3Bb.11098	pEG1098	A494G, T687C, A692G, C932T,	D165G, H231R,	$\alpha 4; \alpha 6, 1\beta 1,$	7.9×	2,4,7,8
E317K			A938C, T942G, G949A, T954C	S311L, N313T,	α8 α		
				E317K			

TABLE 11

DNA SEQUENCE CHANGES OF CRY3BB* GENES AND RESULTING AMINO ACID SUBSTITUTIONS OF THE CRY3BB* PROTEINS

PEGITOR A468T, C464A, T465C, T466C, T467A, T154F, P155H, L156H, L158R L02,4 PEGITOR A468T, A469T, G470C, T472C, T473G, G474T, T154F, P155H, L156H, L158R 1α3,4 PEGITOR A468T, A469T, G470C, T472C, T473G, G474T, X230L,H231S α6 PEGITOR T687C, T688C, A689T, C691A, A692G X223B, Y230S α6 PEGITOR T687C, T688C, A689T, C691A, A692G R223B, Y230S α6 PEGITOR T687C, C691A, A692G R231R, T241S α6 PEGITOR T687C, C691A, A692C, T693C R231R, R231R β1,α8 PEGITOR C868A, G869A, G870T R230N β2,1R PEGITOR T931A, A933C, T942A, T945A, G949A, A953G, S311L, B317K, Y318C β1,α8 PEGITOR T954C S311A, L312V, Q316W β1,α8 PEGITOR T954C S311A, B317K, Y318C β1,α8 PEGITOR T954C S311A, B317K, Y318C β1,α8 PEGITOR T954C S311A, B317K, Y318C β1,α8 PEGITOR T954C S311A, B317K, S311L, N313T, B317K α6, β1,α8	Plasmid	cry3Bb* DNA Sequence	Cry3Bb* Amino Acid Sequence	Structural Site of
A460T,C461T, A462T, C464A, T465C, T466C, T467A, T154F, P155H, L156H, L158R A468T, A469T, G470C, T472C, T473G, G474T, A477T, A478T, G479C Y230L,H231S Y230L,H231S T687C, T688C, A689T, C691A, A692G Y230L,H231S T667C, T687C, T688C, A689T, C691A, A692G H231R T687C, C691A H231N, T241S T687C, C691A H231N, T241S T687C, C691A, A692C, T693C R290N C932T, A938C, T942G, G949A, T954C S311L, N313T, E317K T931A, A933C, T942A, T945A, G949A, A953G, S311T, E317K, Y318C T931G, A933C, C934G, T945G, C946T, A947G, S311A, L312V, Q316W G951A, T954C S311L, N313T, E317K T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K				Alteration
A468T, A469T, G470C, T472C, T473G, G474T, A477T, A478T, G479C T687C, T688C, A689T, C691A, A692G T667C, T687C, T688A, A689G, C691A, A692G T687C, C691A T7831C, T942G, G949A, T954C T931A, A933C, T942G, C946T, A947G, S3111A, L312V, Q316W G951A, T954C T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K	pEG1707	A460T,C461T, A462T, C464A, T465C, T466C, T467A,	T154F, P155H, L156H, L158R	lα3,4
A477T, A478T, G479C Y230L,H231S T687C, T688C, A689T, C691A, A692G Y230L,H231S T667C, T687C, T688A, A689G, C691A, A692G H231R T687C, C691A H231R T687C, C691A, A692C, T693C H231N, T241S T687C, C691A, A692C, T693C H231T C932T, A938C, T942G, G949A, T954C S311L, N313T, E317K T931A, A933C, T942A, T945A, G949A, A953G, S311T, E317K, Y318C T954C T954C T954C S311A, L312V, Q316W G951A, T954C S311A, B31T, B317K T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K T954C H231R, S311L, N313T, E317K		A468T, A469T, G470C, T472C, T473G, G474T,		
T687C, T688C, A689T, C691A, A692G Y230L,H231S T667C, T687C, T688A, A689G, C691A, A692G H231R T687C, C691A T687C, A692G, C932T, A938C, T942G, G949A		A477T, A478T, G479C		
T667C, T688A, A689G, C691A, A692G S223P, Y230S T687C, A692G H231R T687C, C691A H231N, T241S T687C, C691A, A692C, T693C H231T C868A, G869A, G870T R290N C932T, A938C, T942G, G949A, T954C S311L, N313T, E317K T931A, A933C, T942A, T945A, G949A, A953G, S311T, E317K, Y318C T931G, A933C, C934G, T945G, C946T, A947G, S311A, L312V, Q316W G951A, T954C H231R, S311L, N313T, E317K T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K	pEG1708	T687C, T688C, A689T, C691A, A692G	Y230L,H231S	α6
T687C, A692G H231R T687C, C691A H231N, T241S T687C, C691A, A692C, T693C H231T C868A, G869A, G870T R290N C932T, A938C, T942G, G949A, T954C S311L, N313T, E317K T931A, A933C, T942A, T945A, G949A, A953G, S311T, E317K, Y318C T954C T954C T931G, A933C, C934G, T954C S311A, L312V, Q316W T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K T954C H231R, S311L, N313T, E317K	pEG1709	T667C, T687C, T688A, A689G, C691A, A692G	S223P, Y230S	α6
T687C, C691A T687C, C691A, A692C, T693C C868A, G869A, G870T C868A, G869A, G870T C932T, A938C, T942G, G949A, T954C T931A, A933C, T942A, T945A, G949A, A953G, T931G, A933C, C934G, T945G, C946T, A947G, T931G, A933C, C934G, T945G, C946T, A947G, T687C, A692G, C932T, A938C, T942G, G949A, T954C T951A, T954C T951A, T954C T951A, T954C T9551A, T954C T9551A, T954C T687C, A692G, C932T, A938C, T942G, G949A, T9554C	pEG1710	T687C, A692G	H231R	. α6
T687C, C691A, A692C, T693C C868A, G869A, G870T C932T, A938C, T942G, G949A, T954C T931A, A933C, T942A, T945A, G949A, A953G, T954C T931G, A933C, C934G, T945G, C946T, A947G, G951A, T954C T687C, A692G, C932T, A938C, T942G, G949A, T954C T954C	pEG1711	T687C, C691A	H231N, T241S	α6
C932T, A938C, T942G, G949A, T954C S311L, N313T, E317K T931A, A933C, T942A, T945A, G949A, A953G, T954C T931G, A933C, C934G, T945G, C946T, A947G, S311A, L312V, Q316W G951A, T954C T687C, A692G, C932T, A938C, T942G, G949A, T954C	pEG1712	T687C, C691A, A692C, T693C	H231T	α6
C932T, A938C, T942G, G949A, T954C T931A, A933C, T942A, T945A, G949A, A953G, T954C T954C T931G, A933C, C934G, T945G, C946T, A947G, G951A, T954C T687C, A692G, C932T, A938C, T942G, G949A, T954C T954C	pEG1713	C868A, G869A, G870T	R290N	$1\alpha 7, \beta 1$
T931A, A933C, T942A, T945A, G949A, A953G, T954C T931G, A933C, C934G, T945G, C946T, A947G, G951A, T954C T687C, A692G, C932T, A938C, T942G, G949A, T687C, A692G, C932T, A938C, T942G, G949A, T954C	pEG1714	C932T, A938C, T942G, G949A, T954C	S311L, N313T, E317K	$1\beta 1, \alpha 8$
T954C T931G, A933C, C934G, T945G, C946T, A947G, S311A, L312V, Q316W G951A, T954C T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K T954C	pEG1715	T931A, A933C, T942A, T945A, G949A, A953G,	S311T, E317K, Y318C	$1\beta1,\alpha8$.
T931G, A933C, C934G, T945G, C946T, A947G, S311A, L312V, Q316W G951A, T954C T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K T954C		T954C		
G951A, T954C T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K T954C	pEG1716	T931G, A933C, C934G, T945G, C946T, A947G,	S311A, L312V, Q316W	$1\beta 1, \alpha 8$
T687C, A692G, C932T, A938C, T942G, G949A, H231R, S311L, N313T, E317K T954C		G951A, T954C		
T954C	pEG1717	T687C, A692G, C932T, A938C, T942G, G949A,	H231R, S311L, N313T, E317K	$\alpha 6, 1\beta 1, \alpha 8$
		T954C		

Plasmid	cry3Bb* DNA Sequence	Cry3Bb* Amino Acid Sequence	Structural Site of
			Alteration
pEG1718	T931A, A933G, T935C, T936A, A938C, T939C,	S311T, L312P, N313T, E317N	1β1,α8
	T942C, T945A, G951T, T954C		
pEG1719	T931G, A933C, T936G, T942C, C943T, T945A,	S311A, Q316D	$1\beta 1, \alpha 8$
	C946G, G948C, T954C		
pEG1720	T861C, T866C, C868A, T871C, T872G, A875T,	1289T, L291R, Y292F, S293R	$1\alpha 7, \beta 1$
	T877A, C878G, A882G		
pEG1721	T687C, A692G, C932T	H231R, S311L	α6, 1β1,α8
pEG1722	T931A, C932T, A933C, T936C, T942G, T945A, T954C	S311I	$1\beta 1, \alpha 8$
pEG1723	T931A, C932T, A933C, T936C, A937G, A938T,	S3111, N313H	$1\beta 1, \alpha 8$
	C941A, T942C, T945A, C946A, A947T, A950T,		
	T954C		
pEG1724	A933C, T936C, A937G, A938T, C941A, T942C,	N313V, T314N, Q316M, E317V	$1\beta 1, \alpha 8$
	T945A, C946A, A947T, A950T, T954C		
pEG1725	A933T, A938G, T939G, T942A, T944C, T945A,	N313R, L315P, Q316L, E317A	$1\beta 1, \alpha 8$
	A947T, G948T, A950C, T954C		
pEG1726	A860T, T861C, G862A, C868T, G869T, T871C,	Y287F, D288N, R290L	$1\alpha 7, \beta 1$
	A873T, T877A, C878G, A879T		
pEG1727	C868G, G869T	R290V	$1\alpha 7, \beta 1$

Plasmid	cry3Bb* DNA Sequence	Cry3Bb* Amino Acid Sequence	Structural Site of
			Alteration
pEG1041	A494G	D165G	α4
pEG1046	G479A, A481C, A482C, A484C, G485A,	S160N, K161P, PR162H, D165G	α4
	A486C,A494G		
pEG1047	A865G, T877C	I289V, S293P	$l\alpha 7, \beta 1$
pEG1052	G479A, A481C, A482C, A484C, G485A, A486C,	S160N, K161P, \overline{PR} 162H, D165G,	$\alpha 4, 1\alpha 7, \beta 1$
	A494G, A865G, T877C	I289V, S293P	
pEG1054	Т309А, Д310, Д311, Д312	D103E, AA104	$l\alpha 2a, 2b$
pEG1057	A565G, A566G	K189G	$1\alpha4.5$
pEG1062	T309A, A310, A311, A312, G479A, A481C, A482C,	D103E, AA104, S160N, K161P,	$l\alpha 2a, 2b \alpha 4$
	A484C, G485A, A486C, A494G	<u>PR</u> 162H, D165G	
pEG1063	T309A, A310, A311, A312, A460T, C461T, A462T,	D103E, AA104, T154F, P155H,	$1\alpha 2a,2b 1\alpha 3,4$
	C464A, T465C, T466C, T467A, A468T, A469T,	L156H, L158R	
	G470C, T472C, T473G, G474T, A477T, A478T,		
	G479C		
pEG1084	A494G, T931A, A933C, T942A, T945A, G949A,	D165G, S311T, E317K	$\alpha 4, 1\beta 1, \alpha 8$
	T954C		

Plasmid	cry3Bb* DNA Sequence	Cry3Bb* Amino Acid Sequence	Structural Site of
			Alteration
pEG1085	A494G, A865G, T877C, T914C, T931G, A933C,	D165G, I289V, S293P, F305S,	α4, Ια7,β1 β1, Ιβ1,α8
	C934G, T945G, C946T, A947G, G951A, T954C,	S311A, L312V, Q316W, Q348R,	β2, β3b
	A1043G, T1094C	V365A	
pEG1086	A865G, T877C, A1043G	1289V, S293P, Q348R	$1\alpha7,\beta1,\beta2$
pEG1087	A494G, C932T	D165G, S311L	$\alpha 4, 1\beta 1, \alpha 8$
pEG1095	A1043G	Q348R	β2 .